CONTENTS OF VOLUME XXIII

CXXIV. JULY, 1906

The Reflection of Cathode Rays from Thin Metallic Films. S. R. WILLIAMS . 1

On the Physical Properties of Fused Magnesium Oxide. H. M. GOODWIN AND R. D. MAILEY 22

Distributions of Colloidal Nuclei and of Ions in Dust-Free Carbon Dioxide. C. BARUS 31

Studies in Luminescence — Further Experiments on the Decay of Phosphorescence in Sidot Blende and certain other Substances. EDWARD L. NICHOLS AND ERNEST MERRITT 37

An Inductance and Capacity Bridge. A. DE FOREST PALMER, JR. 55

American Physical Society. Direct Reading Methods of Resistance Comparison. *F. A. Wolff* 64

CXXV. AUGUST, 1906

The Velocity and Ratio *e/m* for the Primary and Secondary Rays of Radium. S. J. ALLEN 65

Limitations of the Ballistic Method for Magnetic Induction. A. HOYT TAYLOR 95

The Thermo-electric Behavior of Silver in a Thermo-element of the First Class. W. D. HENDERSON 101

Infra-red Absorption and Reflection Spectra. W. W. COBLENTZ 125

The Cotemporaneous Variations of the Nucleations and the Ionization of the Atmosphere of Providence. LULU B. JOSLIN 154

The Cadmium Standard Cell. GEORGE A. HULETT 160

American Physical Society. Minutes of the Thirty-third Meeting; Talbot's Law as Applied to the Rotating Sectored Disk, *E. P. Hyde;* The Compound Interferometer, *C. W. Chamberlain;* The Evolution of Gas from the Cathode in Argon and Helium, *C. A. Skinner;* Perchlorate of Silver as the Electrolyte in the Silver Coulometer, *H. S. Carhart, H. H. Willard* and *W. D. Henderson;* A Lecture Experiment in Electrolytic Thermo-electromotive Force, *H. S. Carhart* 184

CXXVI. SEPTEMBER, 1906

The Influence of Frequency upon the Self-Inductance of Cylindrical Coils of *m*-Layers. J. G. COFFIN 193

On the Velocity of Sound in Gases, and the ratio of the Specific Heats, at the Temperature of Liquid Air. S. R. COOK 212

The Use of the Wehnelt Interrupter with the Righi Exciter for Electric Waves. A. D. COLE 238

On the Measurement of the Refractive Index by the Interferometer. C. A. PROCTOR 245

303509

Proceedings of the American Physical Society. Coefficient of Linear Expansion at Low Temperature, *H. G. Dorsey;* The Temperature of the Moon, *Wm. W. Coblentz;* Infra-red Reflection Spectra, *Wm. W. Coblentz;* Note on the Graphical Representation of Non-sinusoidal Alternating Currents, *Frederick Bedell;* The Calibration of Capillary Tubes, *Willard J. Fisher;* The Production of Ozone by a Photo-Electric Current in Oxygen, *Harry S. Hower;* Note on Electric Double Refraction in Carbon-Disulphide at Higher Temperatures, *L. B. Morse;* Electric Double Refraction in Carbon Disulphide at Low Potentials, *L. B. Morse;* The Production of Ozone by Becquerel Rays passing through Oxygen, *Harry S. Hower* 246

New Books. *Meldrum*, Avogadro and Dalton — the Standing in Chemistry of their Hypotheses; *Winkelman*, Handbuch der Physik 254

CXXVII. OCTOBER, 1906

On the Reflection and Transmission of Electric Waves by Screens of Resonators and by Grids. F. C. BLAKE AND C. R. FOUNTAIN 257

The Duration of the Afterglow Produced in Gases by the Electrodeless Ring Discharge. C. C. TROWBRIDGE 279

The Temperature of Solid Carbonic Acid and its Mixtures with Ether and Alcohol at Different Pressures. JOHN ZELENY AND ANTHONY ZELENY . . 308

Measurements of the Internal Temperature Gradient in Common Materials. CHAS. B. THWING 315

CXXVIII. NOVEMBER, 1906.

A Spectrophotometric Study of Solutions of Copper and Cobalt. B. E. MOORE. 321

Spark Potentials in Liquid Dielectrics. ROBERT F. EARHART. 358

Hydration in Solution. C. S. HUDSON 370

Every-day Problems of the Moving Coil Galvanometer. WALTER P. WHITE. 382

On Precision Measurements with the Moving Coil Ballistic Galvanometer. ANTHONY ZELENY. 399

The Optical Properties of Carbon Films. HERBERT A. CLARK. 422

The Moisture Precipitated in the Fog Chamber per Cubic Centimeter. CARL BARUS. 444

On Increasing the Constancy of Batteries giving Current. W. P. WHITE . . . 447

CXXIX. DECEMBER, 1906

The Constancy of Thermoelements. WALTER P. WHITE 449

Note on the Comparison of Capacities. A. TROWBRIDGE AND A. H. TAYLOR . 475

An Improved Method of Measuring the Infra-Red Dispersion of Magnetic Rotation; and the Magnetic Rotatory Dispersion of Water. L. R. INGERSOLL. 486

The Irreversibility of the Heusler Alloys. BRUCE V. HILL 498

Note on the Vibration Galvanometer. ROY T. WELLS 504

New Books. *Abraham and Langevin.* Ions, Electrons, Corpuscles. 507

Index 508